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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,340	06/25/2003	Nithyalakshmi Sampathkumar	MSFT-1732 (303414.1)	3992
41505 7590 09/12/2007 WOODCOCK WASHBURN LLP (MICROSOFT CORPORATION) CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			EXAMINER LUDWIG, MATTHEW J	
			ART UNIT 2178	PAPER NUMBER
			MAIL DATE 09/12/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/606,340

Applicant(s)

SAMPATHKUMAR ET AL.

Examiner

Matthew J. Ludwig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the amendment received 6/7/2007.
2. Claims 1-3 and 5-22 are pending in the application. Claims 1, 7, and 21, are independent claims.
3. Claims 1-3 and 5-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Kotsakis in view of Feng have been withdrawn pursuant to applicant's amendment. Furthermore, claims 1, 7, and 21, rejected under 35 U.S.C. 112 first paragraph, as failing to comply with the enablement requirement have been withdrawn pursuant to applicant's amendment.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-3, 5-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Evangelos Kotsakis, 'XSD: A Hierarchical Access Method for Indexing XML Schemata', Copyright 2002, pages 4: 168-201 in view of W3C, Fallside, XML Schema Part 0: Primer. In reference to independent claim 1, Kotsakis teaches:**

A DCS matches a parameterized path expression if there is at least one simple path in the DCS which matches the parameterized path expression. If a matching path is returned by algorithm, then the parameterized path expression is matched against the DCS (compare to

‘XML document having attribute and type information’). See page 180, Definition 3.6 through 3.9.

A merger DCS depicts a generic XML schema which combines two or more simpler DCSs. The introduction of the concept of merger DCS aims at limiting the initial search space by merging primitive DCSs into more general ones, which may then be used as matching targets against XML queries (compare to “an XSD inference engine, the XSD inference engine accepting the XML document as input to process the XML document to infer an XML schema definition”). See page 182, DCS Basic Operations.

The reference does not explicitly state the utilization of an inference engine, however, Kotsakis discloses a method of organizing semi-structured schemata in a hierarchical way and it may be viewed as a meta-schema organization (infer an XML schema). The XSD approach is based on clustering XML schemata rather than on classifying semi-structured sources such as XML documents. It would have been obvious to one of ordinary skill in the art, having the meta-schema organization methods of Kotsakis to provide an author with the ability to aggregate similar XML schemata into a merger schema allowing faster query processing.

The reference fails to explicitly state ‘accepting a second XML document as input and determining if the second XML document has forms or structures that are unincluded in the generated XML schema definition, and if so, modifying the XML schema definition based on the second XML document’, however, W3C teaches that when we want to check that an instance document conforms to one or more schemas (through a process called schema validation), we need to identify which element and attribute declarations and type definition in the schemas should be used to check which elements and attributes in the instance document. The target

namespace plays an important role in the identification process. See section 3, p.26).

Furthermore, the reference to W3C teaches that various purchase order and address constructions are now contained in two chema files. To include these constructions as part of the international purchase order schema, in other words to include them in the international purchase order's namespace, ipo.xsd contains the include element (Section 4.1, p 35 and 4.5, p 40. The reference provides a validation technique using multiple purchase orders and updating elements based on a second international purchase order and redefining elements within a schema. The Examiner's interpretation of the phrase '*forms or structures*' fails to provide an accurate description of what forms or structure means in relations to the XML schema definition. The updating of elements and/or purchase order elements provides a generic means of updating forms/structures of XML schema definitions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the generic XML schema of Kotsakis to include the schema modification methods of W3C, because it would have improved the organization of semi-structured schemata in a hierarchical way.

In reference to dependent claim 2, Kotsakis teaches:

Figure 4(a) shows a merger DCS, which is obtained by merging the DCSs in Fig. 4(b) and (c). The merger DCS contains the union of the elements in the simpler DCSs. A merger DCS may be viewed as a bounding structure that unifies simpler DCSs. See Kotsakis, page 175.

In reference to dependent claim 3, Kotsakis teaches:

Algorithm 3.1 shows how to find whether a DCS tree matches a parameterized path expression. If a matching path is returned by Algorithm 3.1, then the parameterized path expression is matched against the DCS.

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In reference to dependent claim 5, Kotsakis teaches:

A merger DCS depicts a generic XML schema which combines two or more simpler DCSs. The introduction of the concept of merger DCS aims at limiting the initial search space by merging primitive DCSs into more general ones, which may then be used as matching targets against XML queries (compare to “an XSD inference engine, the XSD inference engine accepting the XML document as input to process the XML document to infer an XML schema definition”). See page 182, DCS Basic Operations.

In reference to dependent claim 6, Kotsakis teaches:

In a filter-and-refine XML query execution, the XSD access method restricts the search to a subset of XML documents, which is usually a subspace of the entire corpus. See Kotsakis, page 199.

In reference to claims 7-18, the claims recite similar limitations for performing the schema inference methods found in claims 1-6. Therefore, the claims are rejected along the same rationale.

In reference to claims 19-22, the claims recite the system comprising computer readable instructions used for performing the methods as claimed in 1-6. Therefore, the following claims are rejected along the same rationale.

Response to Arguments

6. Applicant's arguments with respect to claims 1-3, 5-22 have been considered but are moot in view of the new ground(s) of rejection. Applicant amended the independent claims and

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therefore changed the scope of the claims and the invention when read as a whole. Therefore, rejection has been adjusted accordingly.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Ludwig whose telephone number is 571-272-4127. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on 571-272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ML


STEPHEN HONG
SUPERVISORY PATENT EXAMINER